Publication without presentation; papers will be available to May 1, 1968.

67—APM-R
Laminar Source Flow Between Two Parallel Coaxial Disks Rotating at Different Speeds, by F. Kreith, Mem. ASME, University of Colorado, Boulder, Colo.; and H. Viviand, Laboratoire d'Aerothermique du CNRS, Meudon, France. (To be published in Trans. ASME—J. Appl. Mech.)

Presented is an analysis of the flow in the gap between two parallel coaxial disks rotating at different velocities, with a source in the center. The Navier-Stokes equations are solved by double series expansion about a known solution at a large radius, and velocity and pressure distributions are calculated for the laminar regime.

The interaction between the source flow and the rotational effects is investigated by a method valid for small rotational Taylor numbers of the disks. Several flow configurations are shown to be physically possible, and the magnitudes of the parameters delineating the different flow regimes are calculated.

67—APM-S
On a Class of Models for the Yielding Behavior of Continuous and Composite Systems, by W. D. Iwan, California Institute of Technology, Pasadena, Calif. (To be published in Trans. ASME—J. Appl. Mech.)

A class of one-dimensional models for the yielding behavior of materials and structures is presented. This class of models leads to stress-strain relations which exhibit a Bauschinger effect of the Massing type, and both the steady-state and nonsteady-state cyclic behavior are completely specified if the initial monotonic loading behavior is known.

The concepts of the one-dimensional class of models are extended to three dimensions and lead to a subsequent generalization of the customary concepts of the incremental theory of plasticity.

67—APM-T
A Note on Taylor Instability in Circular Couette Flow, by D. Coles, California Institute of Technology, Pasadena, Calif. (To be published in Trans. ASME—J. Appl. Mech.)

The problem of Taylor instability is reexamined, and it is shown that the effect of geometry (radius ratio) can be very nearly suppressed by a proper choice of variables. The two cases of cylinders rotating in the same direction and in opposite directions are treated separately.

67—APM-K
Laminar Flow Along a Vertical Wall, by Nabil A. Hassan, Ministry of Public Works, Kuwait, Arabia. (To be published in Trans. ASME—J. Appl. Mech.)

The problem of laminar flow of thin fluid films is investigated theoretically. An appropriate mathematical solution is given, where surface tension is neglected. The result is one universal curve.

67—APM-P
Some Interaction Effects in a Problem of Plastic Beam Dynamics—Part 2: Analysis of a Structure as a System of One Degree of Freedom, by T. Nonaka, Assoc. Mem. ASME, Kyoto University, Kyoto, Japan. (To be published in Trans. ASME—J. Appl. Mech.)

A theoretical study is made of the permanent deformation of a clamped beam with constraints against axial displacements at the ends. The beam carries a concentrated mass at its center and is subjected to large transverse impact loading at the mass.

The analysis is based on the assumption of one degree of freedom and takes account of the interaction between bending and extension, of strain-rate sensitivity, of elastic vibration, and of load duration, in an approximate manner.

67—APM-O
Some Interaction Effects in a Problem of Plastic Beam Dynamics—Part 1: Interaction Analysis of a Rigid, Perfectly Plastic Beam, by T. Nonaka, Assoc. Mem. ASME, Kyoto University, Kyoto, Japan. (To be published in Trans. ASME—J. Appl. Mech.)

An analysis is presented to determine the permanent deformation of a rigid-plastic clamped beam with constraints against axial displacements at the ends. The beam carries a concentrated mass at its center and is subjected to large transverse impulsive loading at the mass.

Plastic interaction is considered for the combined action of bending moments, axial forces, and shearing forces, based on a fixed yield surface.

67—APM-Q
Some Interaction Effects in a Problem of Plastic Beam Dynamics—Part 3: Experimental Study, by T. Nonaka, Assoc. Mem. ASME, Kyoto University, Kyoto, Japan. (To be published in Trans. ASME—J. Appl. Mech.)

An experimental study is made of the permanent deformation of clamped beams with and without constraints against axial displacements at the ends. The beams carry a concentrated mass at the center and are subjected to blast loading at the central mass.

The simple rigid-plastic analysis overestimates the deformation but serves as a first approximation for large deformations. Consideration of load duration seems to improve the simple rigid-plastic theory.